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HDP/SB/21 based on PTO/SB/21 (08-00)

AF 乱伐

TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	**09/303,343**
Filing Date	April 30, 1999
Inventor(s)	Mohamed Anisur RAHMAN
Group Art Unit	2666
Examiner Name	Phuc H. Tran
Attorney Docket Number	29250-000663/US

ENCLOSURES *(check all that apply)*

☒ Fee Transmittal Form

 ☒ Fee Attached

☐ Amendment

 ☐ After Final

 ☐ Affidavits/declaration(s)

☐ Extension of Time Request

☐ Express Abandonment Request

☐ Information Disclosure Statement

☐ Certified Copy of Priority Document(s)

☐ Response to Missing Parts/ Incomplete Application

☐ Response to Missing Parts under 37 CFR 1.52 or 1.53

☐ Assignment Papers *(for an Application)*

☐ Letter to the Official Draftsperson and _____ Sheets of Formal Drawing(s)

☐ Licensing-related Papers

☐ Petition

☐ Petition to Convert to a Provisional Application

☐ Power of Attorney, Revocation Change of Correspondence Address

☐ Terminal Disclaimer

☐ Request for Refund

☐ CD, Number of CD(s) _____

☐ After Allowance Communication to Group

☐ LETTER SUBMITTING APPEAL BRIEF AND APPEAL BRIEF (w/clean version of pending claims)

☒ Appeal Communication to Group *(Notice of Appeal, Brief, Reply Brief)*

☐ Proprietary Information

☐ Status Letter

☐ Other Enclosure(s) *(please identify below)*:

Remarks	

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

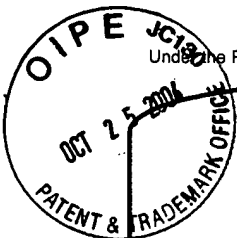| Firm or Individual name	Harness, Dickey & Pierce, P.L.C.	Attorney Name Gary D. Yacura	Reg. No. 35,416
Signature		45.274	
Date	October 25, 2004		

FEE TRANSMITTAL
for FY 2004

Patent fees are subject to annual revision.

Complete if Known	
Application Number	09/303,343
Filing Date	April 30, 1999
Inventor(s)	Mohamed Anisur RAHMAN
Examiner Name	Phuc H. Tran
Group Art Unit	2666

TOTAL AMOUNT OF PAYMENT	($) 110.00	Attorney Docket No.	29250-000663/US

METHOD OF PAYMENT (check one)

1. ☒ The Commissioner is hereby authorized to charge indicated fees and credit any over payments to:

Deposit Account Number: 08-0750

Deposit Account Name: Harness, Dickey & Pierce, P.L.C.

☒ Charge Any Additional Fee Required Under 37 CFR 1.16 and 1.17

☐ Applicant claims small entity status. See 37 CFR 1.27

2. ☒ Payment Enclosed:

☒ Check ☐ Credit card ☐ Money Order ☐ Other

FEE CALCULATION

1. BASIC FILING FEE

Large Entity Fee Code	Fee ($)	Small Entity Fee Code	Fee ($)	Fee Description	Fee Paid
1001	790	2001	395	Utility filing fee	
1002	350	2002	175	Design filing fee	
1003	550	2003	275	Plant filing fee	
1004	790	2004	395	Reissue filing fee	
1005	160	2005	80	Provisional filling fee	

SUBTOTAL (1) ($)

2. EXTRA CLAIM FEES

	Extra Claims	Fee from below	Fee Paid
Total Claims	17 -20 ** =	X	=
Independent Claims	2 -3 ** =	X	=
Multiple Dependent		X	=

Large Entity Fee Code	Fee ($)	Small Entity Fee Code	Fee ($)	Fee Description
1202	18	2202	9	Claims in excess of 20
1201	88	2201	44	Independent claims in excess of 3
1203	300	2203	150	Multiple dependent claim, if not paid
1204	88	2204	44	** Reissue independent claims over original patent
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) ($)

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Fee Code	Fee ($)	Small Entity Fee Code	Fee ($)	Fee Description	Fee Paid
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet.	
1053	1053	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	110.00
1252	430	2252	215	Extension for reply within second month	
1253	980	2253	490	Extension for reply within third month	
1254	1,530	2254	765	Extension for reply within fourth month	
1255	2,080	2255	1,040	Extension for reply within fifth month	
1401	340	2401	170	Notice of Appeal	
1402	340	2402	170	Filing a brief in support of an appeal	
1403	300	2403	150	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive – unavoidable	
1453	1,370	2453	685	Petition to revive – unintentional	
1501	1,370	2501	685	Utility issue fee (or reissue)	
1502	490	2502	245	Design issue fee	
1503	660	2503	330	Plant issue fee	
1460	130	1460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17 (q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	790	2809	395	Filing a submission after final rejection (37 CFR § 1.129(a))	
1810	790	2810	395	For each additional invention to be examined (37 CFR § 1.129(b))	
1801	790	2801	395	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify) _____

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) ($)110.00

SUBMITTED BY

Complete *(if applicable)*

Name (Print/Type)	Gary D. Yacura	Registration No. (Attorney/Agent)	35,416	Telephone	703-668-8000
Signature	45,274			Date	October 25, 2004

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038. Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

PATENT
Atty. Docket No.: 29250-000663/US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.: 09/303,343

Filing Date: April 30, 1999

Appellant: Mohamed Anisur RAHMAN

Group Art Unit: 2666

Examiner: Phuc H. Tran

Title: WEB BROWSING AND TCP/IP SETUP TIME OPTIMIZATION, DATA RATE AND THROUGHPUT INCREASE IN A WIRELESS NETWORK

Conf No: 8223

APPEAL BRIEF

Commissioner for Patents   October 25, 2004 (Monday)
P.O. Box 1450
Alexandria, VA 22313-1450
Mail Stop Appeal Brief

Dear Sir:

Appellant submits herewith his Brief on Appeal as required by 37 C.F.R. 41.37.

TABLE OF CONTENTS

BRIEF ON BEHALF OF APPELLANT

In support of the Notice of Appeal filed July 23, 2004, appealing the Examiner's final rejection mailed June 16, 2004 of each of pending claims 1, 4-7 and 9-20 of the present application which appear in the attached Appendix, the due date for reply having been extended one (1) month to October 23, 2004 (Saturday), Appellant hereby provides the following remarks.

(1)   REAL PARTY IN INTEREST:

The real party in interest is Lucent Technologies, Inc, as evidenced by the assignment recorded at reel 9943, frame 0526.

(2)   RELATED APPEALS AND INTERFERENCES:

No related appeals or interferences are known.

(3)   STATUS OF THE CLAIMS:

Pending claims 1, 4-7 and 9-20 are the appealed claims, which stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over Hamalainen et al. (U.S. Patent No. 5,802,465) in view of Appellant's admitted prior art in the background of the invention (hereafter "Appellant's APA"). Claims 2, 3 and 8 have been previously canceled in prosecution.

(4)   STATUS OF ANY AMENDMENT FILED SUBSEQUENT TO FINAL REJECTION:

An after final amendment was filed October 20, 2004 to amend claims 1, 14, 15 and 20 so as to comply with a requirement for form set forth by the Examiner in the final office action of June 16, 2004. Appellant presumes that the Examiner will enter these amendments to reduce the number of issues on appeal. The claims appendix reflects the status of the claims before amendment.

(5) SUMMARY OF CLAIMED SUBJECT MATTER:

a. Background

Fig. 1 shows a general block diagram of a wireless communication system 100 with access to a public switched telephone network 102 (PSTN) and a packet data network 104. The wireless system comprises a set of interconnected mobile switching centers (MSCs) 106, each supporting a number of cell sites 108. A wireless unit 110 can establish a voice call using a circuit switched link between the wireless unit and the base station as part of the circuit switched path with another device, such as a wireless unit 110 or a landline terminal in the PSTN 102.[1] For example, a circuit switched link can be on a wireless channel, such as a forward traffic channel, between the wireless unit 110 and the base station 108.[2] If the wireless unit is making a voice call, a circuit switched link is established for the forward link and the reverse link between the wireless unit 110 and the and the base station 108.[3]

The wireless units 110 communicate with packet data networks 104 by establishing packet switched connections over the wireless network with the PDN 104.[4] Multiple packet switched connections share wireless network resources to establish a packet switched path between the wireless units 110 and the PDN 104[5]. A packet switched link is established between the wireless units 110 and the base station 108 by a burst management system which coordinates the sharing of available wireless resources, such as wireless channels, among multiple packet switched connections.[6]

Packet data communication on the Internet is dominated by traffic transported using TCP/IP in which data is transmitted using data sessions, referred to as TCP sessions or connections, in a request/response fashion.[7] FIG. 2 shows packets being exchanged over a TCP session initiated by a user. The bold arrows indicate data transfer while thin arrows show synchronization or acknowledgment packets.[8] The TCP session is established with a three-way handshake between the user, such as the

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[1] Page 3, line 25 to page 4, line 2 of specification.
[2] Page 4, lines 2-4 of specification.
[3] Page 4, lines 4-6 of specification.
[4] Page 4, lines 14-16 of specification.
[5] Page 4, lines 16-17 of specification.
[6] Page 4, lines 17-21 of specification.
[7] Page 6, lines 20-22 of specification.
[8] Page 7, lines 4-5 of specification.

wireless unit 110, and the network device.[9] After this three-way handshake, the network device and the user continue to acknowledge each other's transmissions, but data can now be transmitted.[10]

The round trip time (RTT) for setting up the TCP session is the amount of time required to send the request packet and receive the response packet.[11] Because TCP session setup is typically associated with every TCP session, frequent TCP setup and tear-down or disconnect can adversely effect the data throughput.[12] For relatively small request-response type packets, the packet switched connection must still request resources and be allocated them, and further data cannot be sent until the data session is set up.[13] When the TCP session is associated with wireless communications, the RTT increases due to the delay associated with sending the setup packets for the data session over the packet switched link between the wireless user 110 and the base station 108.[14]

The additional delay arises because the burst management system must receive requests for and temporarily allocate wireless resources to send and receive the setup packets over the packet switched link between the wireless user 110 and the base station 108.[15] The increased RTT can throttle the throughput and data rate. For example, in the wireless environment where the TCP setup time can be 280 ms or more, the setup time may far exceed the data burst time.[16] Such a result contributes to increased delay for most users and degrades the overall data rate and throughput of data communications through the wireless network.[17]

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[9] Page 7, lines 5-7 of specification.
[10] Page 7, lines 23-25 of specification.
[11] Page 7, lines 26-27 of specification.
[12] Page 7, lines 27-29 of specification.
[13] Page 7, line 29 to page 8, line 3 of specification.
[14] Page 8, lines 3-6 of specification.
[15] Page 8, lines 6-9 of specification.
[16] Page 8, lines 9-11 of specification.
[17] Page 8, lines11-13 of specification.

b. Summary as related to Claimed Subject Matter

The present invention involves a wireless communication system which uses a circuit switched link between a wireless unit and a base station in order to establish a data session with a network device in a packet data network.[18] After the data session is established using the circuit-switch link, the data session can proceed using a packet switched link between the wireless unit and the base station.[19]

By using the circuit switched link (i.e., a fundamental code channel) to send data session (TCP/IP) setup packets, the system avoids the delay associated with requesting and being allocated wireless resources (known as TCP/IP slow start) in sending the setup packets over the packet switched link between the wireless unit and the base station.[20] Decreasing the delay associated with setting up the data session improves the data rate and throughput between the wireless communications system and the packet data network.[21]

For example, in an exemplary CDMA system, a circuit switched link is established to carry primary traffic (such as voice) and secondary traffic (such as data).[22] The setup packets for the data session can be directly sent as secondary traffic on the circuit switched link, thereby avoiding the delay associated with sending the setup packets over a packet switched link, as is customary in the prior art.[23] In this way, the round trip time (RTT) associated with setting up the data session can be reduced to improve the overall data rate and throughput through the wireless network to the packet data network.[24]

FIG. 3 shows a wireless network architecture 120, such as an IS-634 architecture, which is a cellular communications network having access to the PSTN 102 and the PDN 104, such as the Internet. The network architecture 120 can support simultaneous voice and packet switched data connections.[25] For example, a circuit switched path carrying voice traffic can be established between a wireless unit 122 and

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[18] Page 8, lines 16-18 of specification.
[19] Page 8, lines 18-20 of specification.
[20] Page 8, lines 20-23 of specification.
[21] Page 8, lines 23-25 of specification.
[22] Page 8, lines 25-27 of specification.
[23] Page 8, line 27 to page 9, line 1of specification.
[24] Page 9, lines 1-3 of specification.
[25] Page 10, lines 21-22 of specification.

a landline unit 130, through a base station 124, Selection and Distribution Unit (SDU) 126, the MSC 128 and PSTN 102.[26] Alternatively, a circuit switched path can be established between the wireless unit 122 and a wireless unit 132, through the base station 124, the SDU 126, the MSC 128, and the base station 134.[27] As part of the circuit switched path, a circuit switched link is established between the wireless unit 122 and the base station 124.[28] A packet switched link between the wireless unit 122 and the base station 124 can use the same and/or different wireless channel(s) used for the circuit switched link between the wireless unit 122 and the base station 124 to support a packet data connection between the wireless unit 122 and the device on the PDN 104.[29] The packet switched link is part of a packet switched path between the wireless unit 122 and a device on the PDN 126 through the base station 124, the IWF 140 to the PDN 104.[30]

By treating the data session setup packets differently (i.e., initially establishing a fundamental code channel(s) (circuit switched link) for use in sending data packets in a packet data session) than the data packets sent during the data session, for example as higher priority, delay intolerant traffic, the data rate and throughput of the system can be improved.[31] In doing so, the setup packets for the data session can be sent over the circuit switched link to setup the data session, and the data packets for the established data session can proceed over the packet switched path, subject to the delays of burst management.

If the wireless unit 122 has established a voice circuit (carrying primary traffic such as voice traffic), the data session setup time can be reduced by sending the data setup information, for example the TCP setup packets, as secondary traffic over the already established circuit switched link in the voice circuit frames.[32] As such, the delay associated with requesting and being allocated wireless resources to setup a data session is reduced.[33]

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[26] Page 10, lines 22-25 of specification.
[27] Page 10, lines 25-27 of specification.
[28] Page 10, lines 27-29 of specification.
[29] Page 10, line 29 to page 11, line 4 of specification.
[30] Page 11, lines 4-6 of specification.
[31] Page 11, lines 22-23; page 12, lines 3-9 of specification.
[32] Page 12, lines 10-13 of specification.
[33] Page 12, lines 13-14 of specification.

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In an aspect of the invention, the setup packets can be multiplexed with a traffic frame or voice frame (primary traffic) over the circuit switched link.[34] The circuit switched link may be maintained for at least the duration of a voice call on said circuit switched link or the duration of a link layer connection under of the data session (packet data connection).[35]

(6)   <u>GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL</u>:

Claims 1, 4-7 and 9-20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hamalainen et al. (U.S. Patent No. 5,802,465) in view of Appellant's admitted prior art in the background of the invention (hereafter "Appellant's APA")

(7)   <u>ARGUMENT</u>:

a. Claims 1, 9-15, 18 and 19 are not rendered obvious by Hamalainen et al. in view of Appellant's APA.

Appellant respectfully submits that Hamalainen et al. fails to teach or suggest a method of communicating between a wireless unit and a packet data network comprising, at least sending a <u>setup packet over the established circuit switched link</u> between the wireless unit and the base station, in combination with sending data packets for a data session over a packet-switched link between the wireless unit and packet data network on a wireless resource <u>that has been temporarily allocated in response to a request for a wireless resource to send data packets for said data session</u>, as recited in independent claim 1, and as somewhat similarly recited in independent claim 15.

The GSM network of Hamalainen et al. requires a service node to establish a packet-switched link between a mobile station and a packet data network, and does not describe the actual sending of <u>a setup packet over an already established circuit switched link</u> between a wireless unit and a base station <u>to establish a data session between a wireless unit and a packet data network over a packet-switched link</u>. In

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[34] Page 14, lines 21-27 of specification.
[35] Page 15, lines 4-10 of specification; page 18, lines 5-15 of specification.

particular, Hamalainen et al. requires substantial mapping of GPRS frames onto CDMA air interfaces, which is not a focus, nor a requirement, by the present application.

The Examiner relies on FIG. 4, FIG. 5 and col. 11, lines 31-35 of Hamalainen et al., in alleging that Hamalainen et al. teaches sending of a setup packet over a circuit switched link between a wireless unit and a base station to establish a data session between a wireless unit and a packet data network over a packet-switched link. Each of these passages is discussed below.

The present invention uses the circuit-switched link to send the data setup packets so as to reduce the TCP/IP slow start problem. FIG. 4 of Hamalainen does not teach of establishing a circuit switched link between wireless unit and packet data network for the purpose of establishing a data session that is to be conducted on a packet-switched link. FIG. 4 illustrates the conventional packet data call setup using a packet-switched link, thus this figure does not teach nor describe that the setup packets for establishing the packet data session are sent over a circuit-switched link.

FIG. 5 of Hamalainen et al. does not teach the claimed sending step, but merely describes the prior art method of establishing a packet data session over a packet-switched link. Col. 11, lines 31-35 merely states that after a true channel is set up between MS and BS, the MS is able to immediately transfer data to the BS on that channel. While the Examiner relies on this for establishing a data session, the "request to set up a transfer channel for real packet data" (col. 11, lines 9-12) says nothing about using a circuit-switched link that has been already established between MS and BS for sending the data setup packets.

Thus, the passages and figures in Hamalainen et al. that are relied upon by the Examiner say nothing about sending of a setup packet over a circuit switched link between a wireless unit and a base station to establish a data session between a wireless unit and a packet data network. For at least the above reasons, Appellant submits that claims 1 and 15 are allowable, and that claims 9-14, 18 and 19 are allowable by virtue of their dependence on an allowable independent claim.

As to the Examiner's allegation that the Background of the Invention teaches of a packet switch link that has been temporarily allocated in response to a request for a wireless resource, Appellant submits that the Background of the Invention fails to

remedy the deficiencies in Hamalainen et al. Specifically, page 4, lines 14-23 and page 5 lines 3-4 say nothing about what is missing in Hamalainen et al., specifically the sending of a <u>setup packet over a circuit switched link between a wireless unit and a base station to establish a data session between a wireless unit and a packet data network</u>. Appellant comments on the specific passage below.

Page 4, lines 14-23, page 5 lines 3-4 of specification: This passage is alleged to teach of sending data packets for <u>said data session</u> over a packet switched link between said wireless unit and said packet data network on a wireless resource that has been temporarily allocated in response to a request for a wireless resource to send data packets for said data session. The recited feature of claim 1 requires that <u>the data session have already been set up over the established circuit switched link.</u>

> The wireless units 110 communicate with packet data networks 104 by establishing packet switched connections over the wireless network with the PDN 104. Multiple packet switched connections share wireless network resources to <u>establish a packet switched path</u> between the wireless units 110 and the PDN 104. A packet switched link is established between the wireless units 110 and the base station 108 by a burst management system which coordinates the sharing of available wireless resources, such as wireless channels, among multiple packet switched connections. In current cellular CDMA systems,<u> the fundamental channel and/or one or more supplemental channels can be temporarily assigned to packet switched connections to form the packet switched link</u> . . .
>
> <u>The burst management system collates the burst requests and temporarily assigns the available wireless resources to the packet switched connection.</u>

The indented passage above shows how to generally set up a packet-switched connection. However, the relied on passage provides no discussion, whatsoever, about sending data packets for a data session over a packet-switched link . . . <u>on a wireless resource that has been temporarily allocated in response to a request for a wireless resource to send data packets for said data session</u>, where the request <u>references back to the setup packets being sent over the already established circuit-switched link</u>, see claims 1, 15. For at least this additional reason, Appellant submits that the references fail to teach each and every recited feature of claims 1 or 15, as required by 35 U.S.C.

§103. Claims 9-14, 18 and 19 are allowable by virtue of their dependence on an allowable independent claim.

b. Claims 4-6, 16 and 17 are not rendered obvious by Hamalainen et al. in view of Appellant's APA.

Appellant submits that Hamalainen et al. and/or Appellant's APA is silent on any teaching of <u>multiplexing a setup packet with a traffic frame</u>, or with a voice frame over a circuit switched link, as recited in claims 4, 5, 16 and 17. The Examiner does not even address these recited features of these claims in the Final Office Action. Claims 4-6, 16 and 17 are thus separately patentable at least for the reason that neither Hamalainen et al. or Appellant's APA teaches of multiplexing a setup packet with a traffic frame and/or a voice frame over a circuit switched link.

c. Claim 7 is not rendered obvious by Hamalainen et al. in view of Appellant's APA.

Appellant submits that Hamalainen et al. and Appellant's APA is silent on any teaching of maintaining said circuit switched link for at least the duration of a link layer connection under said data session, as recited in claim 7. The Examiner has not even addressed this feature in the Final Office Action. The Examiner has not identified the circuit switched link in Hamalanien that is allegedly established for sending setup packets for a packet data session, nor the duration at which the link is maintained. Claim 7 is therefore separately patentable for at least this reason.

d. Claim 20 is not rendered obvious by Hamalainen et al. in view of Appellant's APA.

Appellant submits that Hamalainen et al. and Appellant's APA is silent on any teaching of using TCP/IP as the transport protocol for the packet data network <u>and the setup packet is a TCP setup packet sent as secondary data traffic on one or more voice frames over the already established circuit switched link</u>. The Examiner has not even addressed this feature in the Final Office Action. The Examiner has not identified the circuit switched link in Hamalanien that is allegedly established for sending setup

packets for a packet data session, nor that the setup packet is a TCP setup packet sent as secondary data traffic on voice frames of the established circuit switched link. Claim 20 is therefore separately patentable for at least this reason.

(8)   CONCLUSION

For all the reasons set forth above, the present invention as recited in Appellant's pending claims 1, 4-7 and 9-20 are not anticipated, nor rendered obvious to one skilled in the art as asserted by the Examiner. Accordingly, it is respectfully submitted that the claimed invention should properly be patentable over the cited art. It is therefore respectfully requested that this Appeal be granted by the panel and that the Examiner be reversed.

Pursuant to 37 C.F.R. § 1.17 and § 1.136(a), Appellant respectfully petitions for a one (1) month extension of time for filing a response in connection with the present application, and the required fee of $110.00 is attached.

In the event that any matters remain at issue in the application, the Examiner is invited to contact Matthew J. Lattig at (703) 668-8026 in the Northern Virginia area, for the purpose of a telephonic interview.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

HARNESS, DICKEY, & PIERCE, P.L.C.

By Gary D. Yacura, Reg. No. 35,416

P.O. Box 8910
Reston, Virginia 20195
(703) 668-8000

GDY/MJL

Attached: (9) Appendix: Pending claims of record

(9) APPENDIX:

1. A method of communicating between a wireless unit and a packet data network, comprising the steps of:

establishing a circuit switched link between said wireless unit and a base station;

sending a setup packet as secondary traffic over the established circuit switched link between said wireless unit and the base station to establish a data session between said wireless unit and said packet data network; and

sending data packets for said data session over a packet switched link between said wireless unit and said packet data network on a wireless resource that has been temporarily allocated in response to a request for a wireless resource to send data packets for said data session.

4. The method of claim 1, further comprising:

multiplexing said setup packet with a traffic frame over said circuit switched link.

5. The method of claim 4, wherein said step of multiplexing further includes:

multiplexing said setup packet with a voice frame over said circuit switched link.

6. The method of claim 5, further comprising:

maintaining said circuit switched link for at least the duration of a voice call on said circuit switched link.

7. The method of claim 1, further comprising:

maintaining said circuit switched link for at least the duration of a link layer connection under said data session.

9. The method of claim 1, wherein said step of sending data packets further includes:

using temporary assignments of supplemental channels as said wireless resource for sending said data packets for said data session.

10. The method of claim 1, wherein said step of sending data packets further includes:

sending data packets for said data session on a reverse circuit switched link from said wireless unit to a base station.

11. The method of claim 1, wherein said step of sending data packets further includes:

sending data packets for said data session on a forward circuit switched link from a base station to said wireless unit.

12. The method of claim 1, wherein said step of sending a setup packet further includes:

sending, by said wireless unit, the setup packet over said already established circuit switched link to establish said data session.

13. The method of claim 1, wherein said step of sending a setup packet further includes:

sending, by said base station, the setup packet over said already established circuit switched link to establish said data session.

14. The method of claim 1, wherein TCP/IP is used as the transport protocol for the packet data network and the setup packet is a TCP setup packet sent as secondary data traffic on one or more voice frames over the already established circuit switched link.

15. A method of establishing a data session between a wireless unit and a packet data network, comprising:

establishing a circuit switched link between said wireless unit and a base station; and

sending a setup packet as secondary traffic over the established circuit switched link between said wireless unit and the base station to establish a data session between said wireless unit and said packet data network.

16. The method of claim 15, further comprising:

multiplexing said setup packet with a traffic frame over said circuit switched

link.

17. The method of claim 16, wherein said step of multiplexing further includes:

multiplexing said setup packet with a voice frame over said circuit switched link.

18. The method of claim 15, wherein said step of sending a setup packet further includes:

sending, by said wireless unit, the setup packet as secondary traffic over said already established circuit switched link to establish said data session.

19. The method of claim 15, wherein said step of sending a setup packet further includes:

sending, by said base station, the setup packet as secondary traffic over said already established circuit switched link to establish said data session between said wireless unit and said packet data network.

20. The method of claim 15, wherein TCP/IP is used as the transport protocol for the packet data network and the setup packet is a TCP setup packet sent as secondary data traffic on one or more voice frames over the already established circuit switched link.